

**ABSTRACT****MICROMACHINED GYROSCOPIC SENSOR WITH DETECTION IN THE PLANE OF THE MACHINED WAFER**

The invention relates to a microgyroscope, that is to say an inertial micromechanical sensor dedicated to the measurement of angular velocities, which is produced by micromachining techniques on a silicon wafer. The gyroscope comprises two symmetrical moving assemblies (~~30, 50; 30', 50'~~) coupled via a coupling structure (~~20, 20', 22~~). Each of the two assemblies comprises a moving mass  $[(30)]$  surrounded by a moving intermediate frame  $[(50)]$ . The frame  $[(50)]$  is connected to the coupling structure (~~20, 20', 22~~) and can vibrate in two degrees of freedom in orthogonal directions Ox and Oy in the plane of the wafer. The mass  $[(30)]$  is connected on one side to the frame and on the other side to fixed anchoring regions (~~34, 36~~) via linking means (~~40-46; 52-58~~) that allow the vibration movement along the Oy direction to be transmitted to the mass without permitting movement of the mass along the Ox direction. An excitation structure  $[(70)]$  is associated with the frame in order to excite its vibration along Ox. A movement detection structure  $[(90)]$  is associated with the mass  $[(30)]$  in order to detect its vibration along Oy.

**Figure 1.**